

Reasons for Allowance

1. Claims 15, 16, 20, 21 and 73-82 are considered allowable since when reading the claims in light of the specification (MPEP § 211.01), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in independent claim 73, including "cost function" (supported at e. g., page 4, line 7), "cost function response $u(n)$ " (supported at e. g. Fig. 3), "different frequencies" (supported at e. g. page 4, lines 20-32), "different permutations" (supported at e. g. page 4, line 34), "cost function parameters" (supported at e. g. page 4, line 34), "viable permutation" (supported at e. g. page 4, lines 34-35), and "supplying the input signal to the neural network" (supported at e. g. Fig. 3) wherein a predictive control system for a dynamic nonlinear plant is established off-line from the plant using a neural network and comparing phases of a cost function with the phases of the previously sensed plant responses at related frequencies.

The closest prior art (Pado et al., USPN 6,185,470) teaches a method and system for controlling a dynamic nonlinear plant by providing feedback while the tuning is being performed. However, Pado does not accommodate off-line analysis to determine a viable permutation (tuning) and consequently requires substantial temporal resources while subjecting the plant to potential damage.

Inter alia, claims 81 and 82 similarly limit to off-line analysis by "accessing recorded responses of the plant to its resonant frequencies" or "take the plant off-line."

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence Information

3. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 5:30 a.m. to 4:00 p.m.

As detailed in MPEP 502.03, communications via Internet e-mail are at the discretion of the applicant. Without a written authorization by applicant recorded in the applicant's file, the USPTO will not respond via e-mail to any Internet correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. 122. A paper copy of such correspondence will be placed in the appropriate patent application. The following is an example authorization which may be used by the applicant:

Notwithstanding the lack of security with Internet Communications, I hereby authorize the USPTO to communicate with me concerning any subject matter related to the instant application by e-mail. I understand that a copy of such communications related to formal submissions will be made of record in the applications file.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.
Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Joseph P. Hirl/
Primary Examiner, Art Unit 2129
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